

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for a client device, comprising:

receiving, by the client device from a server, an abstract data structure derived from data elements of pre-selected data to be protected, the pre-selected data being stored on the server, the abstract data structure containing positional information identifying a position in the pre-selected data for each data element of the pre-selected data, wherein the abstract data structure does not contain the data elements of the pre-selected data;

storing the abstract data structure containing the positional information in memory of the client device;

searching, locally, text contained in a plurality of documents stored on a plurality of data storage media of the client device for an indication that at least a portion of the pre-selected data stored on the server ~~may be~~ is contained in the text of the plurality of documents, the ~~indication being detected~~ searching comprising searching text of each document in the plurality of documents for a sequence of fragments that resembles data elements from at least one random row in the pre-selected data using the positional information in the abstract data structure identifying the position in the pre-selected data for each data element, the positional information in the abstract data structure being unrelated to the text searched;

detecting locally at least a portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the detection indicating that a user of the client device has caused the portion of the preselected data residing on the server to be stored on the client device, the detecting comprising determining

that the sequence of data fragments matches data elements from one or more columns in the pre-selected data using the positional information in the abstract data structure; and

sending, from the client device to the server, a notification of the detection of the portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the client device being a personal computing device.

2. (Previously Presented) The method of claim 1 further comprising:

upon detecting at least a portion of the pre-selected data, preventing access to the detected data.

3. (Previously Presented) The method of claim 1 wherein the text contained in the plurality of documents is searched periodically.

4. (Previously Presented) The method of claim 1 wherein the text contained in the plurality of documents is searched when the client device is disconnected from the network.

5. (Previously Presented) The method of claim 4 wherein sending a notification comprises:
upon detecting the pre-selected data, creating a message containing the notification of the detection of the pre-selected data;

placing the message in a transmission queue; and

transmitting the message to the server after the client device is re-connected to the server.

6. (Previously Presented) The method of claim 1 further comprising:

receiving instructions defining a scope of a search for the client device from the server.

7. (Canceled)

8. (Currently Amended) The method of claim 1 wherein searching text contained in the plurality of documents further comprises monitoring one or more specific data operations for presence of at least a portion of the pre-selected data.

9. (Previously Presented) The method of claim 8 wherein at least one of the one or more specific data operations is selected from the group consisting of a file-read, a file-write, a file-update, a read from a removable media device, a write to a removable media device, and access of data stored on any of the plurality of data storage media by a program running on the client device.

10. (Previously Presented) The method of claim 1 wherein the pre-selected data has a tabular format.

11. (Previously Presented) The method of claim 1 wherein the pre-selected data is capable of being re-structured into a tabular format based on relationships among elements of the pre-selected data.

12. (Previously Presented) The method of claim 1 wherein the pre-selected data is maintained by an organization in at least one of a spreadsheet, a flat file, and a database.

13. (Previously Presented) The method of claim 12 wherein the pre-selected data is associated with an abstract data structure comprising a tuple-storage structure derived from the pre-selected data.

14. (Previously Presented) The method of claim 13 wherein the abstract data structure comprises a plurality of tuples, each of the plurality of tuples including a row number of a data element in a corresponding cell of a tabular structure of the pre-selected data.

15. (Previously Presented) The method of claim 14 wherein each of the plurality of tuples additionally includes a column number and optionally a column type of the data element in the corresponding cell.

16. (Original) The method of claim 1 wherein the plurality of data storage media is selected from the group consisting of a main memory, a static memory, and a mass storage memory.

17. (Previously Presented) The method of claim 1 wherein a plurality of data storage media comprises one or more volatile storage devices, and one or more persistent storage devices.

18. (Previously Presented) The method of claim 17 further comprising detecting use of the pre-selected data by an application running on the client device.

19. (Previously Presented) The method of claim 18 further comprising:
identifying the application using the pre-selected data; and
reporting the identified application.

20. (Currently Amended) A client device apparatus comprising:

means for receiving, by the client device from a server, an abstract data structure derived from data elements of pre-selected data to be protected, the pre-selected data being stored on the server, the abstract data structure containing positional information identifying a position in the pre-selected data for each data element of the pre-selected data, wherein the abstract data structure does not contain the data elements of the pre-selected data;

means for storing the abstract data structure containing the positional information in memory of the client device;

means for searching, locally, text contained in a plurality of documents stored on a plurality of data storage media of the client device for an indication that at least a portion of the pre-selected data stored on the server ~~may be~~ is contained in the text of the plurality of documents, ~~the indication being detected~~ searching comprising searching text of each document in the plurality of documents for a sequence of fragments that resembles data elements from at least one random row in the pre-selected data using the positional information in the abstract data structure identifying the position in the pre-selected data for each data element, the positional information in the abstract data structure being unrelated to the text searched;

means for detecting locally at least a portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the detection indicating that a user of the client device has caused the portion of the preselected data residing on the server to be stored on the client device, the detecting comprising determining that the sequence of data fragments matches data elements from one or more columns in the pre-selected data using the positional information in the abstract data structure;
and

means for sending, from the client device to the server, a notification of the detection of the portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the client device being a personal computing device.

21. (Previously Presented) The apparatus of claim 20 wherein the text contained in the plurality of documents is searched periodically.

22. (Previously Presented) The apparatus of claim 20 wherein the text contained in the plurality of documents is searched when the client device is disconnected from the network.

23. (Previously Presented) The apparatus of claim 20 wherein means for sending a notification comprises:

means for creating a message containing the notification of the detection of the pre-selected data upon detecting the pre-selected data;

means for placing the message in a transmission queue; and

means for transmitting the message to the server after the client device is re-connected to the server.

24. (Previously Presented) The apparatus of claim 20 further comprising:

means for receiving instructions defining a scope of a search for the client device from the server.

25. (Currently Amended) The apparatus of claim 20 wherein means for searching contents of a plurality of data storage media of the client device further comprises means for monitoring one or more specific data operations for presence of at least a portion of the pre-selected data.

26. (Previously Presented) The apparatus of claim 25 wherein at least one of the one or more specific data operations is selected from the group consisting of a file-read, a file-write, a file-update, a read from a removable media device, a write to a removable media device, and access of data stored on any of the plurality of data storage media by a program running on the client device.

27. (Original) The apparatus of claim 20 wherein the plurality of data storage media is selected from the group consisting of a main memory, a static memory, and a mass storage memory.

28. (Previously Presented) The apparatus of claim 20 wherein a plurality of data storage media comprises one or more volatile storage devices, and one or more persistent storage devices.

29. (Previously Presented) The apparatus of claim 28 further comprising means for detecting use of the pre-selected data by an application running on the client device.

30. (Previously Presented) The apparatus of claim 29 further comprising:
means for identifying the application using the pre-selected data; and
means for reporting the identified application.

31. (Currently Amended) A client device comprising:

a plurality of storage media storing an abstract data structure derived from data elements of pre-selected data to be protected, the pre-selected data being stored on a server, and a plurality of documents containing text for the client device, the client device being a personal computing device, the abstract data structure containing positional information identifying a position in the pre-selected data for each data element of the pre-selected data, wherein the abstract data structure does not contain the data elements of the pre-selected data; and

at least one processor coupled to the plurality of storage media, at least one processor executing a set of instructions which cause the processor to search locally the text in the plurality of documents stored on a plurality of data storage media of the client device for an indication that at least a portion of the pre-selected data stored on the server ~~may be~~ is contained in the text of the plurality of documents, ~~the indication being detected~~ searching comprising searching text of each document in the plurality of documents for a sequence of fragments that resembles data elements from at least one random row in the pre-selected data using the positional information in the abstract data structure identifying the position in the pre-selected data for each data element, the positional information in the abstract data structure being unrelated to the text searched, to detect locally at least a portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the detection indicating that a user of the client device has caused the portion of the preselected data residing on the server to be stored on the client device, the detecting comprising determining that the sequence of data fragments matches data elements from one or more columns in the pre-selected data using the positional information in the abstract data structure, and to send, from the client device to the server, a notification of the detection of the portion of

the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the client device being a personal computing device.

32. (Currently Amended) A computer readable medium that provides instructions, which when executed on a processor cause the processor to perform a method for a client device, comprising:

receiving an abstract data structure derived from data elements of pre-selected data to be protected, the pre-selected data being stored on a server, the abstract data structure containing positional information identifying a position in the pre-selected data for each data element of the pre-selected data;

storing the abstract data structure in memory of the client device, the stored abstract data structure not containing the data elements of the pre-selected data to be protected;

searching, locally, text contained in a plurality of documents stored on a plurality of data storage media of the client device for an indication that at least a portion of the pre-selected data stored on the server is contained in the text of the plurality of documents, ~~the indication being detected~~ searching comprising searching text of each document in the plurality of documents for a sequence of fragments that resembles data elements from at least one random row in the pre-selected data using the positional information in the abstract data structure identifying the position in the pre-selected data for each data element, ~~the positional information in the abstract data structure being unrelated to the text searched~~

detecting locally at least a portion of the pre-selected data in the text of at least one of the plurality of documents stored on any one of the plurality of data storage media of the client device, the detection indicating that a user of the client device has caused the portion of the

preselected data residing on the server to be stored on the client device, the detecting comprising determining that the sequence of data fragments matches data elements from one or more columns in the pre-selected data using the positional information in the abstract data structure;
and

sending, from the client device to the server, a notification of the detection of the portion of the pre-selected data in the text of at least one of the plurality of documents stored on any of the plurality of data storage media of the client device, the client device being a personal computing device.